

Amendment under 37 C.F.R. §1.111
U.S. Application No. 10/510,031

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A cable connection method for connecting an end of a conductor of a cable to a connecting face of a contact of a connector or substrate, such that a lengthwise direction of said connecting face and a lengthwise direction of said conductor are mutually matched in the connection, said method comprising:

pressuring said end of said conductor against said connecting face via a pair of electrodes mutually separated in the lengthwise direction of said conductor; and

passing an electric current between said pair of electrodes to weld said end of said cable and said connecting face together,

wherein:

a part of said conductor that comes into contact with the connecting face of said contact is formed as a flat surface; and

~~a part~~ an entire surface of an end of said conductor that comes into contact with said electrodes is formed as a flat surface.

Claims 2-6 (canceled)

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7. (currently amended) A cable connection having a configuration in which an end of a conductor of a cable is connected to a connecting face of a contact of a connector or substrate such that a lengthwise direction of said connecting face and a lengthwise direction of said conductor are mutually matched in the connection, said cable comprising:

a long elongated welded part formed in the lengthwise direction of said conductor in a connecting part between said conductor and said contact,

wherein the welding in said welded part is within the scope from the condition in which the depth at the top of a color changed part forming an arc on said contact is above 0.1 mm to the condition immediately prior to the condition of blasting of said contact,

wherein, the part of said conductor that comes into contact with said connecting face of said connector is formed as a flat surface, and

wherein, ~~the part~~ an entire surface of an end of said conductor, that comes into contact with said electrodes, is formed as a flat surface.

8. (currently amended) A cable connection having a configuration wherein an end of a conductor of a cable is connected to a connecting face of a contact of a connector or substrate such that a lengthwise direction of said connecting face and a lengthwise direction of said conductor are mutually matched in the connection, said cable comprising:

a long elongated welded part is formed in the lengthwise direction of said conductor in the connecting part between said conductor and said contact,

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wherein the state of the welding in said welded part is within the scope from the condition in which the dispersion of a layer of precious metal thinly covering the surface of said conductor of said cable forms an alloy layer of that precious metal in said contact that is of a depth of 5 μ m to the condition in which said alloy layer is half the thickness of said contact,

wherein, the part of said conductor that comes into contact with said connecting face of said connector is formed as a flat surface, and

wherein, ~~the part~~ an entire surface of an end of said conductor, that comes into contact with said electrodes, is formed as a flat surface.

Claims 9 and 10 (canceled).

11. (previously presented) A cable welding device for connecting an end of a conductor of a cable to a connecting face of a contact of a connector or substrate such that a lengthwise direction of said connecting face and a lengthwise direction of said conductor are mutually matched in the connection, said cable welding device comprising:

- a base on which said connector or substrate furnishing said contact can be disposed;
- a pair of electrodes mutually separated in the lengthwise direction of said conductor;
- pressure means capable of pressing, via said pair of electrodes, said end of said conductor in contact with said contact, thereby pressuring said end of said conductor against said connecting face; and
- voltage applying means capable of applying voltage between said electrodes; and

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a plurality of groupings of the conductors and contacts, wherein said pair of electrodes are shaped to weld and apply pressure to each of said groupings at the same time.

Claims 12-17 (canceled)

18. (previously presented) The cable connection method according to claim 1, wherein:
the welding comprises an arc-shaped color changed part in the contact; and
a depth of a top of the color changed part is in a range of 0.1 mm to a value immediately above which will cause blasting of the contact.

19. (previously presented) The cable connection method according to claim 1, wherein:
a layer of precious metal covers a surface of the conductor facing the contact;
the welding causes the layer of precious metal to disperse into the contact to form an alloy layer; and
the alloy layer has a depth in a range of 5 μ m to half a thickness of the contact.

Claim 21 (canceled).

22. (new) A method for connecting a round conductive wire of a cable to a flat contact of a connector or substrate, the method comprising:
setting an end portion of a single round conductive wire on a flat contact;

setting a pair of electrodes on the round conductive wire on a side opposite to the flat contact, the pair of electrodes being mutually spaced apart in a longitudinal direction of the round conductive wire;

forming a flat side surface in the end portion of the round conductive wire by pressing the round conductive wire against the flat contact with the pair of electrodes; and

welding the flat side surface of the round conductive wire to the flat contact by passing an electric current between the pair of electrodes.

23. (new) The method according to claim 22, wherein the forming of the flat side surface is performed at the same time as the welding of the flat side surface to the flat contact.

24. (new) The method according to claim 22, wherein:
the welding comprises an arc-shaped color changed part in the flat contact; and
a depth of a top of the color changed part is in a range of 0.1 mm to a value immediately above which will cause blasting of the flat contact.

25. (new) The method according to claim 22, wherein:
a layer of precious metal covers a surface of the round conductive wire facing the flat contact;
the welding causes the layer of precious metal to disperse into the flat contact to form an alloy layer; and

the alloy layer has a depth in a range of 5 μ m to half a thickness of the flat contact.

26. (new) A device for connecting a round conductive wire to a flat contact of a connector or substrate, the device comprising:

a base for supporting a connector or substrate having a flat contact, an end portion of the round conductive wire disposed on the flat contact;

a pair of electrodes adapted to be set on the round conductive wire on a side opposite to the flat contact, the pair of electrodes being mutually spaced apart in a longitudinal direction of the round conductive wire;

pressing means for causing the pair of electrodes to press the round conductive wire against the flat contact to form a flat side surface in the end portion of the round conductive wire; and

voltage applying means for passing an electric current between the pair of electrodes to weld the flat side surface of the round conductive wire to the flat contact.

27. (new) The device according to claim 26, wherein:

a layer of precious metal covers a surface of the round conductive wire facing the flat contact;

the weld causes the layer of precious metal to disperse into the flat contact to form an alloy layer; and

the alloy layer has a depth in a range of 5 μ m to half a thickness of the flat contact.

28. (new) A cable comprising:

a connector including a base having a plurality of conductive contacts; and

a cable main body including a plurality of wire conductors that connect respectively to the plurality of contacts,

wherein each of the wire conductors and each of the contacts are mutually and electrically connected by welding,

wherein said base includes a flat plate having a front face and a rear face, a plurality of strip-shaped first signal contacts positioned at determined intervals along the y axial direction that is one direction parallel to said front face and disposed extending in the x axial direction that is the other direction parallel to said front face, a plurality of strip-shaped second signal contacts disposed on said rear face and opposing said first signal contacts such that said flat plate is interposed therebetween, and a plurality of ground contacts disposed on said front face or said rear face, extending in the x axial direction and between each of said signal contacts, and

said wire conductor includes a first signal wire, a second signal wire and a drain wire,

said first signal wire connecting to said first signal contact, said second signal wire connecting to said second signal contact and said drain wire connecting to said ground contact.